AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A recombinant vector ~~polynucleotide for a target gene~~ comprising an isolated or purified single-~~-~~stranded polynucleotide ~~comprising~~ consisting of continuous components (I) + (II) + (III), ~~and having the sequence of SEQ ID NOs: 1 or 2~~

wherein component (I) comprises a polynucleotide sequence complementary to the polynucleotide sequence of component (III),

wherein component (II) is a bond or a polynucleotide sequence of from 1 to 20 nucleotides in length, and

~~wherein the target gene has an RNA sequence which is complementary to either component (I) or (III),~~

where in~~in~~ component (III) ~~comprises~~ is a polynucleotide sequence of from 15 to 30 nucleotides in length that has a polynucleotide ~~polynucleotide~~ sequence complementary to that of ~~that of the~~a target gene, ~~wherein component (II) is a bond or comprises a nucleotide sequence of SEQ ID NOs: 3 or 4, and~~

~~component (I) is a polynucleotide sequence comprising a polynucleotide sequence complementary to the polynucleotide sequence of component (III)~~wherein said target gene has an RNA function suppression activity in relation to RNA having a sequence which is complementary to either component (I) or (III) or a partial sequence thereof.

2. (canceled).

3. (canceled).

4. (currently amended): The ~~polynucleotide~~ recombinant vector according to claim 1, wherein ~~the~~ component (I) further

comprises 1 or more U, T, G, C, or A nucleotides on at least one terminal, or has deleted, substituted or added 1 or more U, T, G, C, or A nucleotides within said complementary sequence~~polynucleotide is obtained by chemical synthesis or gene recombination technology~~.

5. (currently amended): The recombinant vector according to claim 1, wherein the single-stranded~~A~~ polynucleotide comprises a promoter sequence at one end and/or a terminator sequence at the other end of the single-stranded polynucleotide sequence thereof which allows for inward expression of said single-stranded polynucleotide sequence~~comprising a single stranded RNA having the sequence of SEQ ID No. 1 or 2~~.

6. (canceled).

7. (currently amended): The ~~polynucleotide~~ recombinant vector according to claim 1, wherein the single-stranded polynucleotide is obtained by chemical synthesis or gene recombination technology~~component (II) is from1 nucleotide to 10 kilobases in length~~.

8. (currently amended): The ~~polynucleotide~~ recombinant vector according to claim 1, wherein component (II) is from 7 to 12~~1 to several hundred~~ nucleotides in length.

9. (currently amended): A method for manufacturing the recombinant vector of any of ~~The polynucleotide according to~~ claims 1 to 8 comprising chemical synthesizing said vector or producing said vector by recombinant gene technology~~, wherein component (II) is from 1 to several dozen nucleotides in length~~.

10. (currently amended): A pharmaceutical composition comprising the recombinant vector of ~~The polynucleotide according to~~any of claims 1 to 8; and a pharmaceutically acceptable carrier~~9, wherein component (II) is from 1 to 20 nucleotides in length~~.

11-15. (canceled).

16. (withdrawn and previously presented): A method for assaying compounds to stimulate or suppress functions related to a target gene comprising:

(A) introducing an isolated or purified single stranded polynucleotide comprising continuous components (I) + (II) + (III) and having the sequence of SEQ ID NOs: 1 or 2 of claim 1 into cells or tissues, and

(B) using said single-stranded polynucleotide sequence to increase or decrease the RNA suppression activity of a gene having a sequence complementary to the polynucleotide sequences of either of component (I) or (III); wherein the method employs a method selected from the following methods:

(a) using labeling directly or indirectly bonded to a candidate compound to measure the binding of the candidate compound and a polypeptide of an amino acid sequence that is coded by the target gene, or a target gene expression product (or a cell or membrane thereof that carries the polypeptide of an amino acid sequence that is coded by the target gene, or a

target gene expression product), or a fusion protein thereof;

(b) measuring in the presence of a labeled competition substance the binding of a candidate compound and a cell into which the single strand polypeptide sequence has been introduced (or cells or the membrane thereof carrying the single strand polypeptide sequence), or a fusion substance thereof;

(c) using a detection system applied to a cell or cell membrane carrying a polypeptide of an amino acid sequence that is coded by the target gene or an expression product of the target gene to determine whether or not a candidate compound has a signal produced by suppressing or activating the polypeptide or expression product of the target gene based on the single strand polynucleotide sequence;

(d) preparing a mixture by simultaneously mixing a candidate substance and a solution containing an amino acid sequence that is coded by the target gene or an expression product of the target gene, measuring the activity of the polypeptide or the expression product of the target gene in the mixture, and comparing the activity of the mixture with that of a standard; and

(e) detecting the effect in the cell that the candidate compound has on the mRNA that codes the polypeptide of the amino acid sequence that is coded by the target gene, and on the product of the polypeptide of the amino acid sequence coded by the target gene.

17. (canceled).

18. (currently amended): A pharmaceutical composition comprising the recombinant vector of claim ~~14~~1, and a pharmaceutically acceptable carrier.

19. (withdrawn and previously presented): A method for suppressing the function of a target gene or method for suppressing the activity of a transcript of a target gene comprising introducing an isolated or purified single stranded polynucleotide comprising continuous components (I) + (II) + (III) and having the sequence of SEQ ID NOs: 1 or 2 into cells or tissues, and suppressing the function of a target gene based on an RNA suppression activity of a gene having a sequence complementary to the polynucleotide sequence of either of component (I) or (III),

wherein component (III) comprises a polynucleotide sequence of 15 to 30 nucleotides that has a polynucleotide sequence complementary to that of the target gene,

wherein component (II) is bond or comprises a nucleotide sequence of SEQ ID NOs: 3 or 4, and

wherein component (I) is a polynucleotide comprising a sequence complementary to the polynucleotide sequence of component (III).

20. (canceled).

21. (withdrawn and previously presented): The method according to claim 19, wherein component (I) or (III) is DNA or RNA comprising from 1 to several of U, T, G, C, or A bases on any terminal, or has such deleted, substituted or within the sequence.

22. (withdrawn and previously presented): The method according to claim 19, wherein the polynucleotide is obtained by chemical synthesis or gene recombination technology.

23.-26. (canceled).

27. (withdrawn and previously presented): The method according to claim 19, wherein component (II) comprises from 1 to several dozen nucleotides in length.

28. (withdrawn and previously presented): The method according to claim 27, wherein component (II) comprises from 1 to 20 nucleotides in length.

29. (canceled).

30. (withdrawn and previously presented): The method according to claim 19, wherein component (II) comprises PNA, a cytoplasm translocation sequence, a sequence having a decoy activity, an interferon induction suppressing sequence, a sequence having any of RNase suppression activity, antisense activity, ribozyme activity, or transfer RNA, or a combination thereof.

31-36. (canceled).

37. (withdrawn and previously presented): A method for detecting a candidate compound to reinforce the function of a target gene comprising the steps of:

culturing cells, tissues, non-human animals, or plants in the presence of a test compound; therafter

introducing an isolated or purified single stranded polynucleotide comprising continuous components (I) + (II) + (III) and having the sequence of SEQ ID NOs: 1 or 2 into said cells, tissues, non-human animals, or plants; and

comparing the RNA suppression activity of the RNA of a gene having a sequence complementary to the polynucleotide sequence of either of component (I) or (III), to a control,

wherein component (III) comprises a polynucleotide sequence of 15 to 30 nucleotides that has a sequence complementary to that of the target gene,

wherein component (II) is a bond or comprises a nucleotide sequence of SEQ ID NOs: 3 or 4, and

wherein component (I) is a polynucleotide comprising a polynucleotide sequence complementary to the sequence of component (III).

38. (canceled).

39. (withdrawn and previously presented): A method for synthesizing nucleotides for target genes including the following steps:

(i) preparing a single stranded polynucleotide comprising component (I) and (II) and having the sequence of SEQ ID NOs: 1 or 2 such that several nucleotides at the 3' terminal of component (II) are complementary to several nucleotides of component (I) or (II);

(ii) synthesizing component (III) based on nucleotide synthesis enzyme activity using said single stranded polynucleotide comprising components (I) and (II), or introducing said single stranded polynucleotide comprising components (I) and (II) into a cell and synthesizing component (III) using nucleotide synthesis enzyme activity present inside the cell,

wherein the target gene has an RNA sequence which is complementary to either component (I) or (III),

wherein component (III) comprises a polynucleotide sequence of 15 to 30 nucleotides in length that has a polynucleotide sequence complementary to that of the target gene,

wherein component (II) is a bond or comprises a nucleotide sequence of SEQ ID NOs: 3 or 4, and

component (I) is a polynucleotide sequence comprising a polynucleotide sequence complementary to the polynucleotide sequence of component (III).

40. (withdrawn-previously presented): A polynucleotide for a randomized target gene obtained by the method of claim 39, wherein components (I) and (III) are random oligonucleotides.

41. (new): The recombinant vector according to claim 5, wherein the promoter sequence is selected from the group consisting of T7 promoter sequence, CMV promoter sequence, U6 promoter sequence and H1 promoter sequence.

42. (new): A recombinant vector comprising an isolated or purified single-strand polynucleotide comprising continuous components (I) + (II) + (III),

wherein component (I) comprises a polynucleotide sequence complementary to the polynucleotide sequence of component (III),

wherein component (II) comprises PNA, a cytoplasm translocation sequence, a sequence having a decoy activity, an

interferon induction suppressing sequence, a sequence having any of RNase suppression activity, antisense activity, ribozyme activity, or transfer RNA, or a combination thereof, and

wherein component (III) is a polynucleotide sequence of from 15 to 30 nucleotides in length that has a polynucleotide sequence complementary to that of a target gene, wherein said target gene has an RNA function suppression activity in relation to RNA having a sequence which is complementary to either component (I) or (III) or a partial sequence thereof.